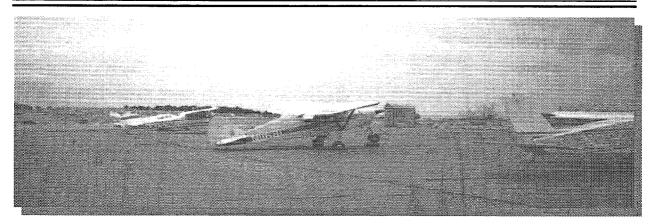
CHAPTER 7

AIRPORT LAYOUT PLANS

Bagdad Airport Master Plan Update



Main aircraft apron and based aircraft

7.1 INTRODUCTION

The preferred airport development alternative presented in Chapter 5 identified proposed improvements for the various airport components for the next twenty years. A set of airport layout plans, referred to as the ALP set, was prepared to graphically depict these proposed improvements. In order to be eligible for federal funding assistance under the Airport Improvement Program (AIP), future airport development must be shown on an approved ALP.

The ALP set is an important tool for airport development. All ALP set drawings should be reviewed and revised upon completion of airport improvement projects. Each ALP set submitted for FAA review should include a completed ALP checklist. A copy of the completed FAA ALP Checklist set is included in the Appendix. Drawings developed in the ALP set for Bagdad Airport include the following:

- Cover Sheet (Title Sheet and Index)
- Airport Layout Plan
- > Terminal Area Plan
- Airspace Plan/Part 77
- Approach Profile and Runway Protection Zone Plan Details
- Airport Property Map
- Land Use Plan/Noise Map

A brief description of the purpose of each drawing is provided on the following pages.

7.2 COVER SHEET

The Cover Sheet (Title Sheet and Index) serves as an introduction to the ALP set of drawings. This sheet outlines the title and exhibit number of each drawing within the set. A vicinity map and location map are also shown on this sheet.

Chapter 7 Page 1 of 6

The vicinity map shows the general geographic location of Bagdad and the Bagdad Airport relative to other cities and towns in the State of Arizona. The Location Map shows the location of Bagdad Airport within the Northern Yavapai County region.

7.3 AIRPORT LAYOUT PLAN

The Bagdad Airport ALP sheet reflects all projects recommended in the Master Plan Update through the year 2017. Proposed development presented in Chapter 5 includes:

- → Pavement improvements for the runway
- → Runway lighting upgrade to Medium Intensity Lighting System (MIRL)
- → Apron expansion to the west approximately 1,020 square yards
- > New terminal building
- > Fencing relocation and upgrade
- → Utility improvements

Chapter 8, Financial Analyses, will present the proposed phasing of these capital improvements.

In addition to the ALP's graphic illustration of the existing and future conditions of Bagdad Airport, pertinent data is also provided on the ALP. This data is presented in the airport data table, runway data table, all-weather wind rose, and the legend. The ALP illustrates much of this data directly on the drawing, but the tables, legend and wind rose present data in an orderly fashion for reference. This data is also given for the existing and ultimate conditions.

The airport data table includes the following information for Bagdad Airport: airport elevation, airport reference point (ARP) coordinates, mean maximum temperature, airport and terminal navaids, airport reference code (ARC), airport lighting, and taxiway lighting and marking.

The ARC for Bagdad Airport (as described earlier in Chapter 2) is B-I, which indicates that the design aircraft expected to use Bagdad Airport are in Approach Category B, and Airplane Design Group I.

The runway data table presents the following information for the runway at Bagdad Airport: runway end elevations and coordinates, effective runway gradient, percent wind coverage, approach category and design group, runway dimensions, runway surface, pavement strength, runway instrumentation, runway lighting, runway marking, approach aids, approach surfaces (with visibility minimums), and runway safety area (RSA) and object free area (OFA) dimensions.

The all-weather wind rose, also shown on the ALP sheet, covers wind conditions under all weather conditions. The all-weather wind rose indicates by compass sector the frequencies at which winds in a given velocity range occur. In this case, due to lack of wind data, the wind data from Prescott Love Field was used. Runway 05-23 orientation was superimposed on the wind rose. The percentage of wind coverage for the given data was approximately 83 percent for 12 mph and 86 percent for 15 mph.

Page 2 of 6 Chapter 7

7.4 TERMINAL AREA PLAN

The terminal area plan is an enlarged and refined plan view of the selected development configuration shown on the ALP sheet. The ultimate terminal area development will include construction of a terminal building, expansion of aircraft apron, aircraft tiedown design and markings and location of reflectors for taxiway exits.

The new terminal building is centrally located in the terminal area next to the main aircraft parking apron and secondary apron and hangar. This arrangement allows the terminal building to be at the center of the activity for airport services. The terminal building will provide the public basic necessities such as phone and restrooms.

Since outdoor tiedowns are the most economical form of aircraft parking, additional hangared spaces were not anticipated for the projected based aircraft within the planning period. Two additional aircraft tiedown spaces will expand the current main apron area to the west approximately 1,020 sq. yards.

Although automobile parking is adequate within the planning period, the ALP and Terminal Area Plan show this as future development to reflect a "paved and marked" parking lot.

The Terminal Area Plan for Bagdad Airport outlines the staging of the terminal area for the 20-year planning period. These staged developments depict an orderly progression for overall development.

7.5 AIRSPACE PLAN / PART 77

The Airspace Plan depicts the ultimate airspace for Bagdad Airport as defined by Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace. The intent of these regulations is to protect the airspace and approaches to each runway from hazards that could affect the safe and efficient operation of the airport. Protection of these areas are outlined by a set of "imaginary surfaces" shown on the Airspace Plan. Any penetration of these imaginary surfaces is defined as an obstruction affecting navigable airspace. Design criteria for these surfaces are determined by airport category and runway approach instrumentation. The ultimate airspace surfaces shown on the plan are the same for the existing condition as no changes to the Bagdad Airport runway lengths, airport category, or instrumentation is planned through 2017.

The principal imaginary surfaces shown in the airspace plan include:

- Primary Surface
- Approach Surface
- Horizontal Surface
- Transitional Surface
- Conical Surface

Chapter 7 Page 3 of 6

7.5.1 Primary Surface

The primary surface is a surface longitudinally centered on a runway. When the runway has a prepared hard surface, the primary surface extends 200 feet beyond each end of the runway. Existing and future Runway 05-23 is a general aviation runway serving small aircraft exclusively with visual approaches and a primary surface width of 250 feet.

7.5.2 Approach Surface

The approach surface is a surface longitudinally centered on the extended runway centerline, which extends outward and upward from each end of the primary surface. Approach slope and dimensions are determined for each runway end based on the type of approach.

Runway 05-23, categorized as a visual runway, requires a 20:1 approach slope out a horizontal length of 5,000 feet. The approach surface measures 250 feet at the inner edge, where it matches the primary surface for this runway, and expands uniformly to a width of 1,250 feet at its outermost point (5,000 feet out).

7.5.3 Horizontal Surface

The horizontal surface is a horizontal plane 150 feet above the established airport elevation. At Bagdad Airport, the elevation is approximately 4,187 feet MSL so the horizontal surface is at an elevation of 4,337 feet. Arcs of specified dimensions set the plan dimensions of the horizontal surface forth from the end of the primary surface for each runway. A tangent line connects the arcs. These arcs correspond with the approach surface length described in section 7.5.2.

7.5.4 Transitional Surface

The transitional surface is an imaginary surface used to join two surfaces together. This surface is an inclined plane with a slope of 7:1 extending upward and outward from the primary and approach surfaces. The transitional surface ends at it intersection with the horizontal surface or other more critical surface preceding it.

7.5.5 Conical Surface

The conical surface is an inclined plane extending upward and outward from the outer boundary of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet. The top of the conical surface is at a height of 350 feet above the airport elevation, which is 4,537 feet for Bagdad Airport.

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Table 7-1 lists obstructions within all of the surfaces as reflected in the ALP set.

Table 7-1 Obstruction Table

	BSTRUCTION	TABLE FOR AIR	SPACE SURFACES	S
DESCRIPTION	ELEVATION +/- (MSL)	PENETRATION +/- (FEET)	SURFACE	DISPOSITION
Terrain	4,660	+127	Conical	No Change
Tanks	4183	+9	Transitional	To be Relocated
Fence	4,168	+5	Approach	Relocate
Fence	4181	+5	Approach	Relocate
Perimeter Road	4197	+15	Primary	Controlled Access
Perimeter Road	4190	+15	Primary	Controlled Access

7.6 APPROACH PROFILE AND RUNWAY PROTECTION ZONE DETAILS

The Approach Profile is a profile representation of the approach surfaces to Runway 5-23. The drawing depicts the physical features in the vicinity of each runway's extended centerline, including significant topographical changes, roadways, and fences. The dimensions and angles of the approach surface are also functions of the Bagdad airport reference code, B-I, and visual approaches. Runway 05 and 23 maintain visual approaches requiring a 20-to-1 slope.

The Runway Protection Zone (RPZ) Plan consists of a large-scale plan view of the inner portion of the approach surfaces. This plan is designed to assist in identification of roadways, buildings, and other obstructions, which lie within critical surfaces located at the end of each runway. As depicted, the RPZs are contained within the airport property line or Navigation easements.

7.7 AIRPORT PROPERTY MAP

For Bagdad Airport, the Airport Property Map is provided to show details on how the various parcels of land within the boundaries of the airport were acquired. As shown on the map, all of the documents recording the land acquisitions are described in a table as well as the type of instrument used to acquire the property.

7.8 LAND USE PLAN / NOISE MAP

The objective of the Land Use Plan/Noise Map is to coordinate land uses both on the airport property and in surrounding areas, so that land uses are compatible and able to function without major constraints.

This drawing is provided to show details of the off-site land use in the area. The off-airport land use has two primary compatibility factors.

Chapter 7 Page 5 of 6

The first is airport hazards, which include any structure of use of land, which obstructs the airspace or which interferes with landing, takeoff and flight of aircraft. Airport hazards are defined and illustrated in the Part 77 Airspace Plan and the Approach Profile.

The second compatibility factor is aircraft noise impact on off-airport property areas. Noise generated by future aircraft operations for year 2017 has been determined through the methodology outlined by the FAA's Integrated Noise Model (INM). As shown on the plan, the predominant land use in the airport environs is undeveloped land, mining operations, and residential located southwest of the airport. Although there are no present land use conflicts at Bagdad Airport, proper initiatives taken now will insure the continued compatible land use between the airport and its environs.

The level and type of aircraft operations at Bagdad Airport today and in the year 2017 were used to produce noise contours of 40, 50, 60, and 65 DNL. The noise contours farthest from the airport encompass the open desert area owned by Phelps Dodge Bagdad Inc. located north of the airport along the approach flight path to Runway 23. As shown on the drawing, most of the significant noise exposure is contained within the airport boundary. Future noise exposure is also shown based on the forecast aircraft fleet mix and reflects a minor increase in noise exposure around the airport.

In 1997, the Arizona legislature passed a measure that authorizes and encourages airport sponsors that possess zoning authority to develop and implement an Airport Influence Area (AIA). These AIA's can consist of areas affected by noise contours, traffic patterns, safety areas, Runway Protection Zones and Part 77 Airspace Surfaces. It is left to the airport sponsor to determine the extent of influence that any of these criteria may impose on off-airport property.

Subsequent to 1997, the State passed a statute that requires the Arizona Real Estate Department to maintain a catalogue of disclosure areas for all public airports in the State. The disclosure area is defined as the area encompassing the 65 DNL contour and the traffic pattern airspace for the airport (shown on the Land Use/Noise Contour Map). For Bagdad Airport, the 65 DNL contour is fully contained on airport property and, therefore, does not extend beyond the traffic pattern airspace.

The map also illustrates the standard left-hand traffic pattern at Bagdad Airport. >>

Page 6 of 6 Chapter 7

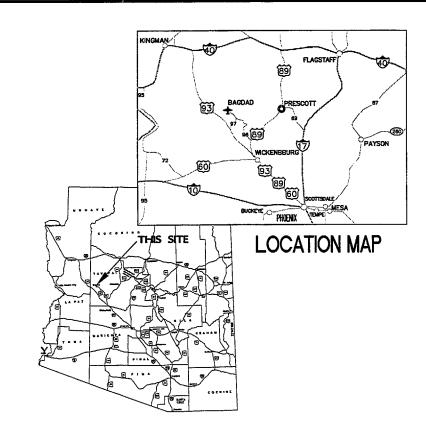
AIRPORT LAYOUT PLAN SET B A G D A D A I R P O R T BAGDAD, ARIZONA

GENERAL DESCRIPTION OF PROJECT AIRPORT MASTER PLAN

SHEET INDEX

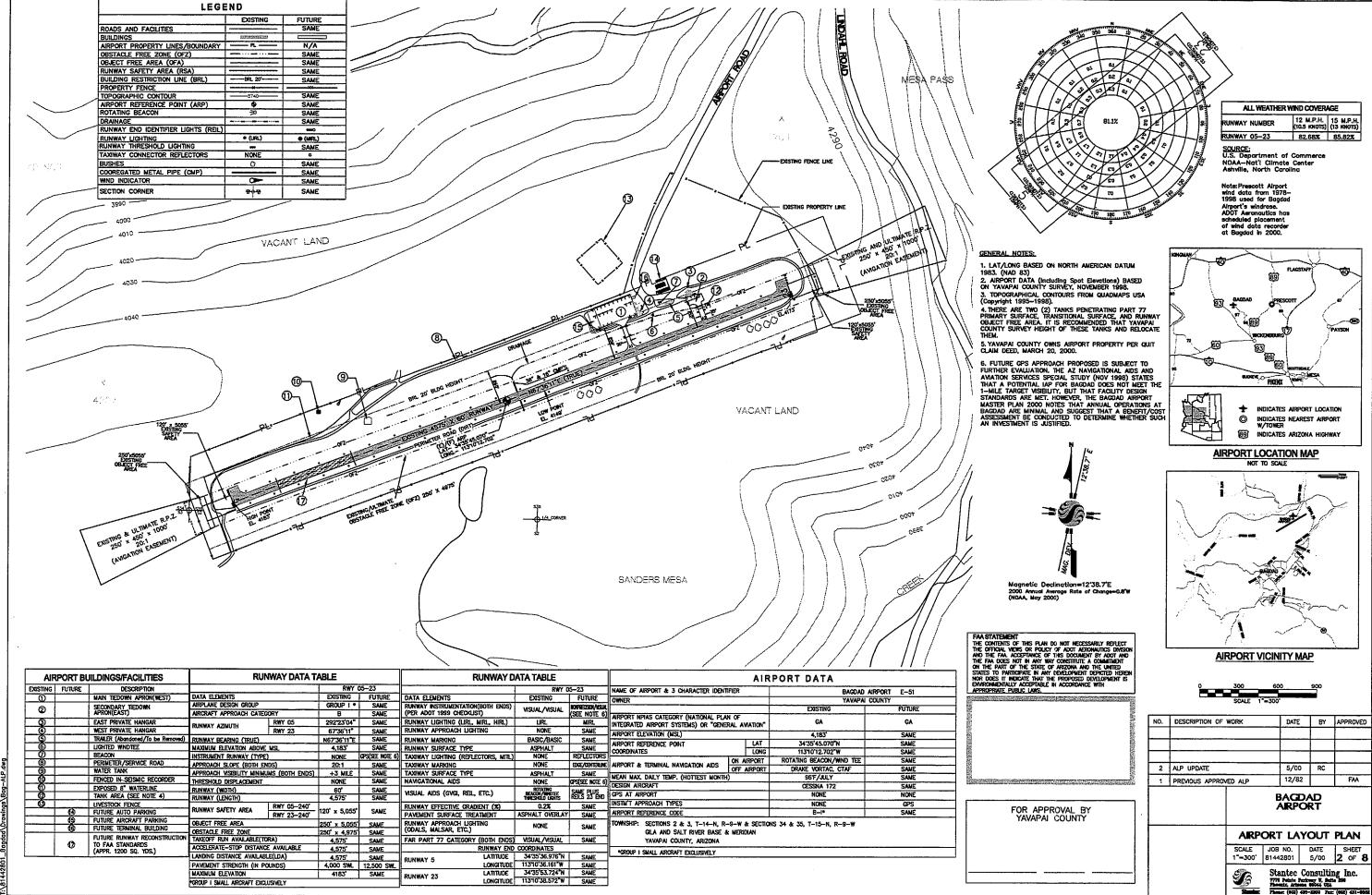
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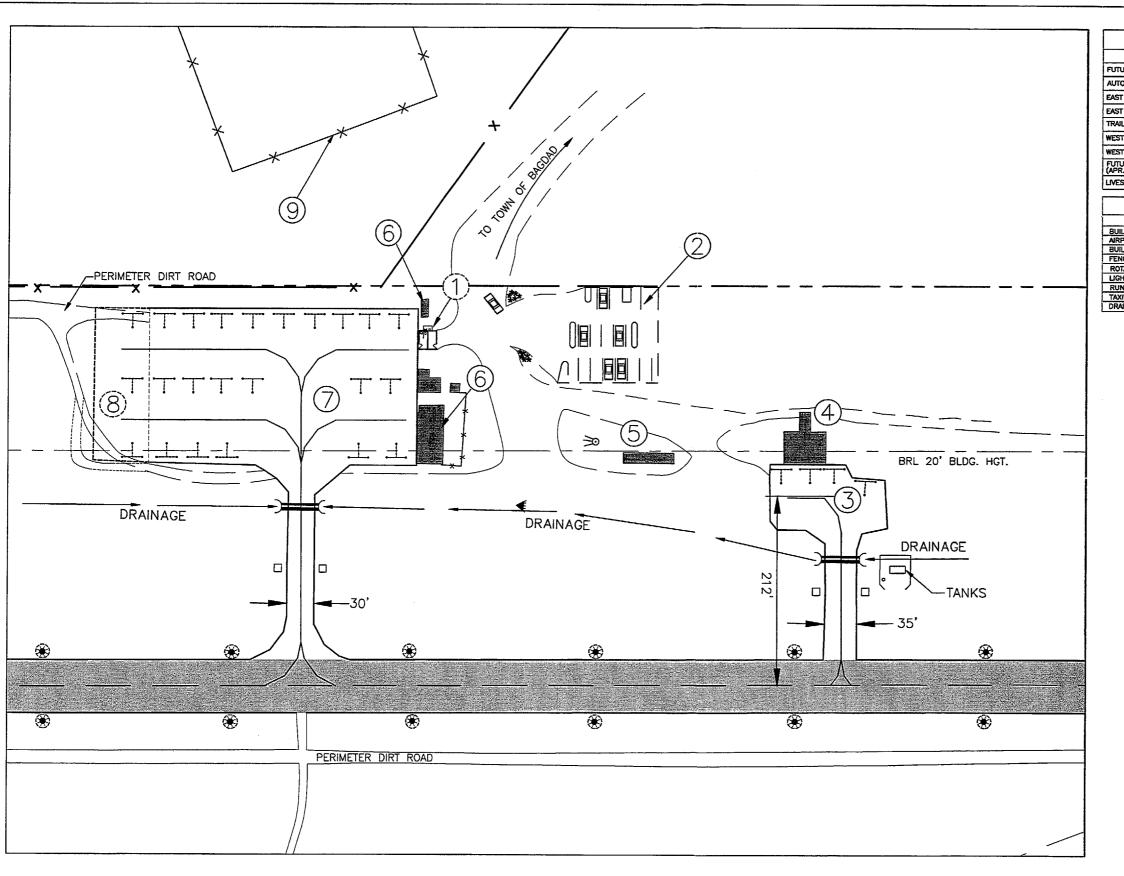
- 1 COVER SHEET
- 2 AIRPORT LAYOUT PLAN
- 3 TERMINAL AREA PLAN
- 4 FAR PART 77 IMAGINARY SURFACES
- 5 APPROACH ZONE PROFILE
- 6 PROTECTION ZONE PLAN
- 7 AIRPORT PROPERTY MAP
- 8 LAND USE/ NOISE CONTOUR MAP



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	EXISTING	FUTURE
FUTURE TERMINAL BUILDING		①
AUTO PARKING (PAVED PARKING)		2
EAST AIRCRAFT APRON	3	
EAST PRIVATE HANGAR	•	
TRAILER	⑤	
WEST PRIVATE HANGAR	6	
WEST AIRCRAFT APRON (MAIN)	Ø	
FUTURE ADDITIONAL AIRCRAFT PARKING (APR. 1200 SQ. YDS.)		8
LIVESTOCK FENCE	9	

L	EGEND	
	EXISTING	FUTURE
BUILDINGS	No. 2 Complete of Free Page	C=225
AIRPORT PROPERTY LINES/BOUNDARY		
BUILDING RESTRICTION LINE (BRL)		
FENCE		
ROTATING BEACON	- →	
LIGHTED WIND TEE	€	
RUNWAY LIGHTING	*(URL)	⊕ (MIRL)
TAXIWAY CONNECTOR REFLECTORS		0
DRAINAGE	-	



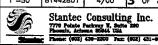


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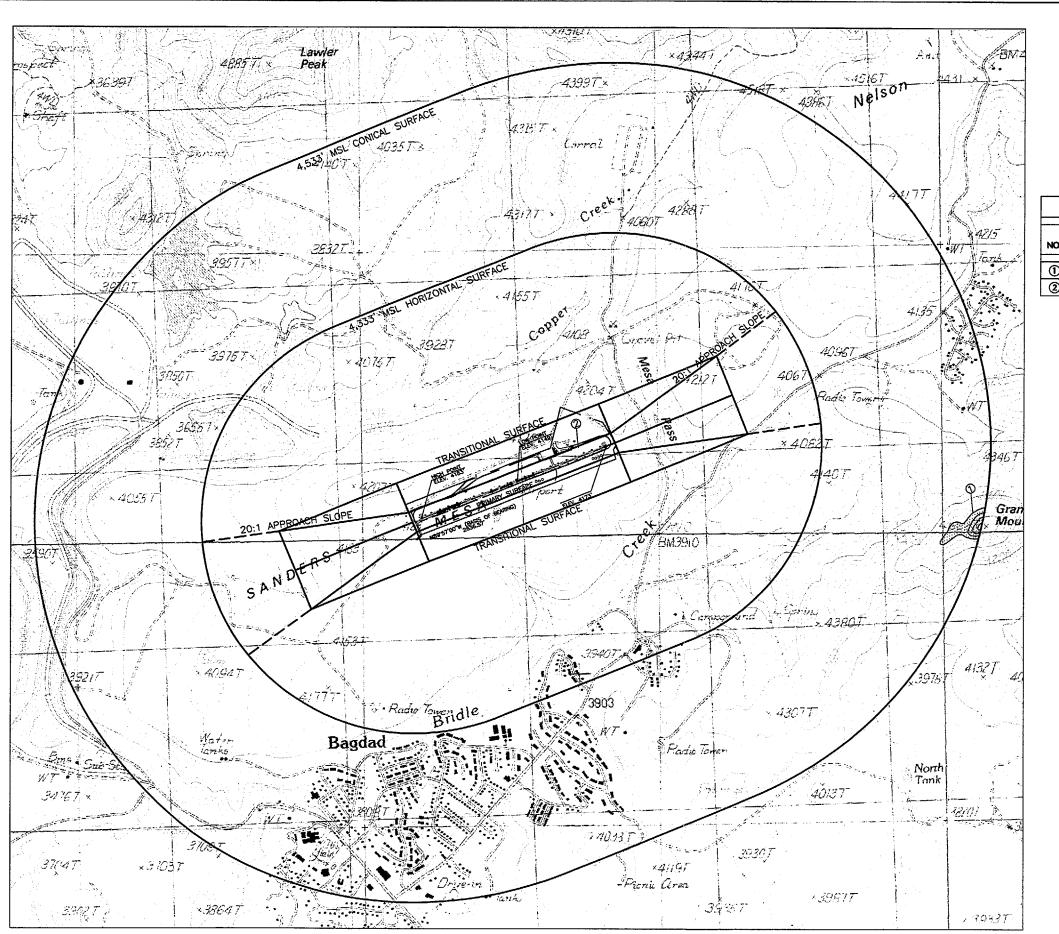
BAGDAD AIRPORT

BAGDAD, ARIZONA
TERMINAL AREA PLAN

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	OBSTRUCTION TABLE										
NO.	DESCRIPTION	ELEVATION ±	PENETRATION ±	SURFACE	DISPOSITION						
0	TERRAIN	4660'	127'	CONICAL	NO CHANCE						
2	TANKS	4183'	9'	TRANSTITIONAL	TO BE RELOCATED						

GENERAL NOTES:

 INAGINARY SURFACE CONTOURS ARE BASED ON FAA REGULATIONS PART 77.

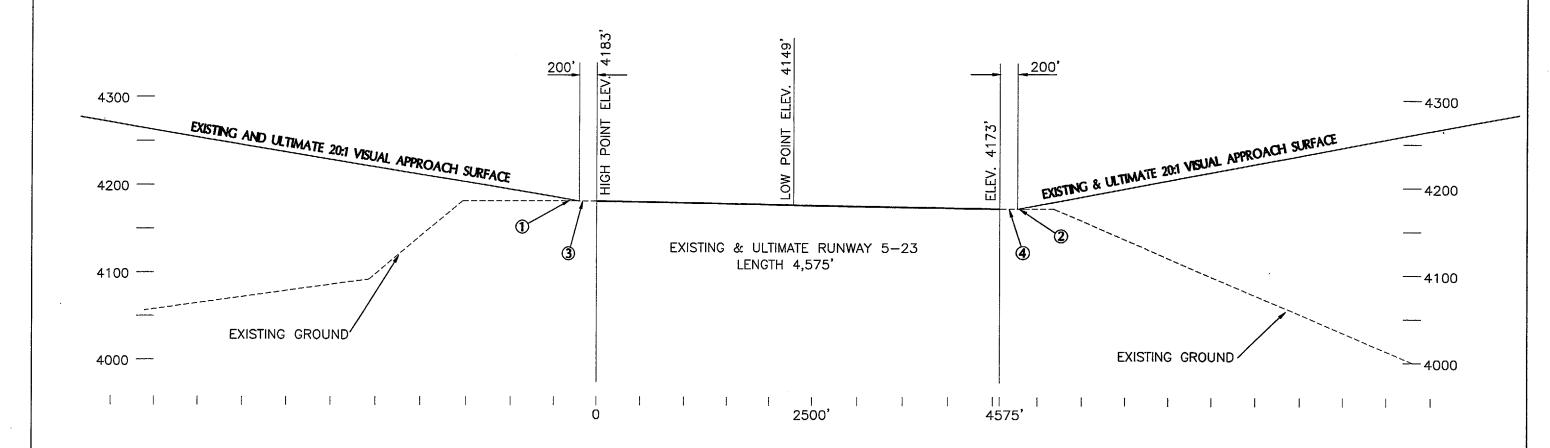




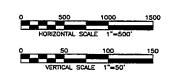
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RUNWAY 05-23 APPROACH PROFILE



	OBSTRUCTION TABLE									
NO.	DESCRIPTION	ELEVATION ± (MSL)	PENETRATION ±	SURFACE	DISPOSITION					
1	FENCE	4188′	5′	APPROACH	RELOCATE					
2	FENCE	4181′	5′	APPROACH	RELOCATE					
3	PERIMETER ROAD	4197′	15′	PRIMARY	CONTROLLED ACCESS					
4	PERIMETER ROAD	4190′	15′	PRIMARY	CONTROLLED ACCESS					



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82.1	81.9	81.7	81.5	81.2	80.2	79.1		75.2	73.1	71.1	69.1	67.2	65.2	63.2	61.2	59.2	157.2	155.3	53.5	51.6	50.4	49.5	49.1	48.7	48.9	49.2	50.1	51.1	52.3	153.5	54.7	55.9	57.1	58.3	59.7	<u>:</u>	62.6	63.8	64.9	0.99	67.3	68.6	83.8	71.1	72.4
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	2+	00	4+0)	6+00		8+0	0	10+	00	12+	00	14+	00	16+0	Ю	18+0	10	20+0	00	22+0	00	24+0	00	26+0	00	28+00	0	30+0C) :	32+0	0	34+0	0	36+0	0	38+00)	40+0	0	42+0	00	44+00)	46+00
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RUNWAY 5-23
APPROACH PROFILE

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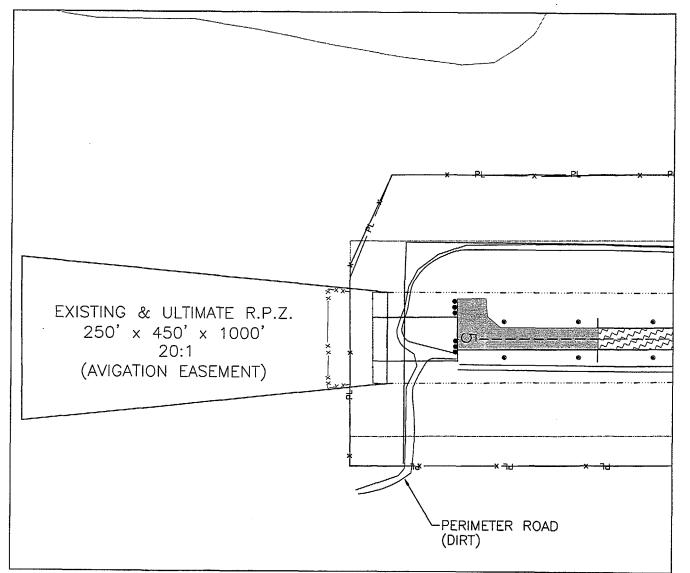
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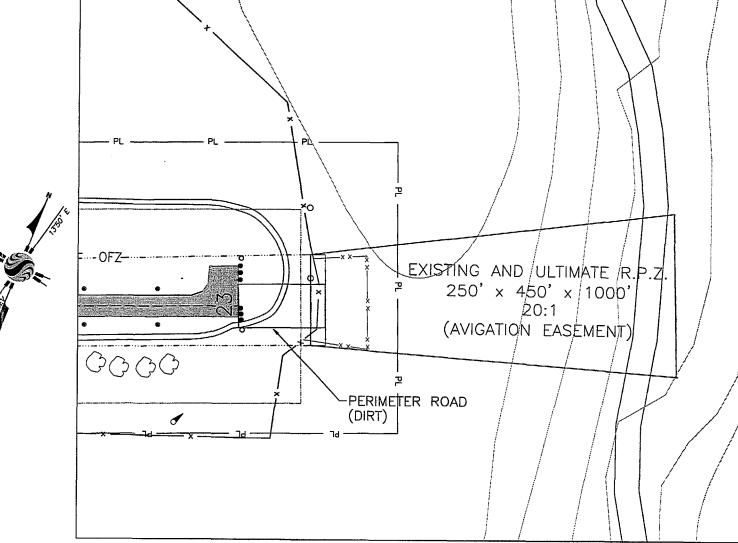
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RUNWAY 05-23 PROTECTION ZONE PLANS





RUNWAY 05

RUNWAY 23

LEGENI)	
	EXISTING	ULTIMATE
PROPERTY LINE -		
FENCE -	X	———х х——
DIRT ROAD		
BUSHES	G	SAME
RUNWAY PAVEMENT		
RUNWAY LIGHTING	* (LIRL)	⊕ (MIRL)
RUNWAY END IDENTIFIER LIGHTS (REIL)		•••O
RUNWAY THRESHOLD LIGHTING	•••	SAME

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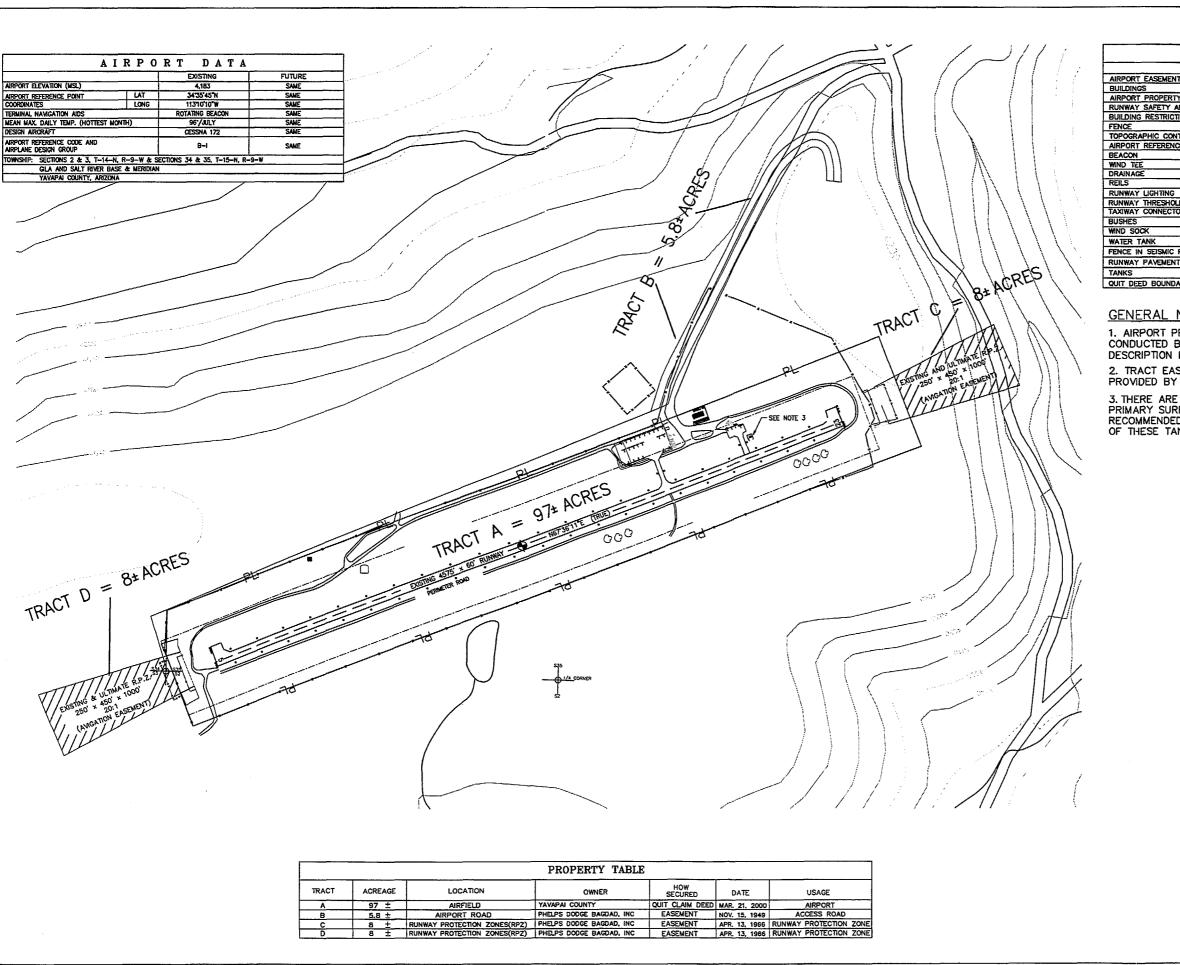
BACDAD AIRPORT

BAGDAD, ARIZONA
PROTECTION ZONE PLAN

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AIRPORT PROPERTY LINES/BOUNDARY		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL)		
FENCE	L	
TOPOGRAPHIC CONTOUR	5740	SAME
AIRPORT REFERENCE POINT (ARP)	•	SAME
BEACON	→	SAME
WIND TEE	€	SAME
DRAINAGE		SAME
REILS	•	SAME
RUNWAY LIGHTING	* (LIRL)	⊕ (MIRL)
RUNWAY THRESHOLD LIGHTING	***	SAME
TAXIWAY CONNECTOR REFLECTORS		0
BUSHES	G	SAME
WIND SOCK	~	SAME
WATER TANK		SAME
FENCE IN SEISMIC RECORDER		SAME
RUNWAY PAVEMENT		
TANKS		SAME
QUIT DEED BOUNDARY LINE	PL	SAME

GENERAL NOTES

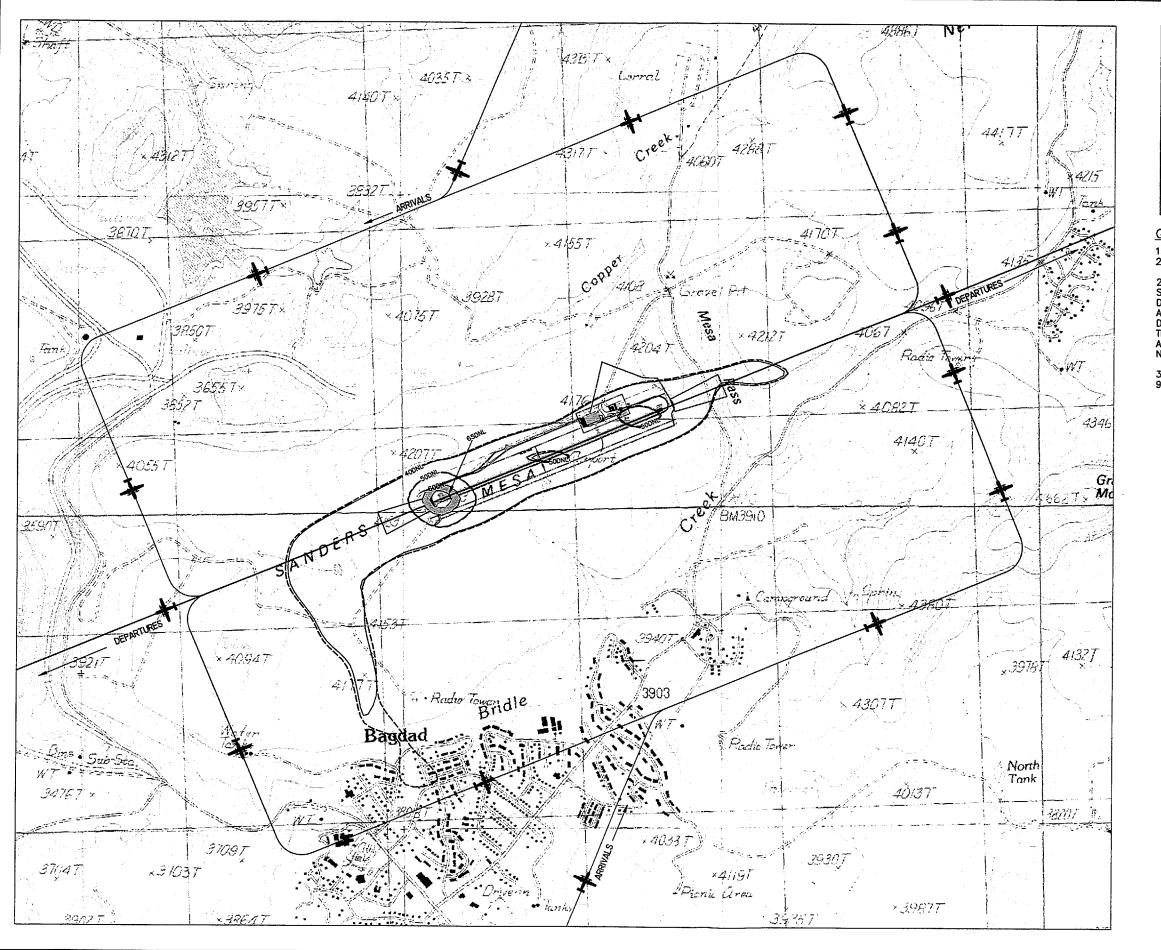
1. AIRPORT PROPERTY BOUNDARY BASED ON SURVEY CONDUCTED BY YAVAPAI COUNTY, NOV. 1998, AND LEGAL DESCRIPTION IN QUIT CLAIM DEED, DATED MAR. 21, 2000.

2. TRACT EASEMENTS FROM RECORDED DOCUMENTS PROVIDED BY YAVAPAI COUNTY.

3. THERE ARE TWO (2) TANKS PENETRATING PART 77 PRIMARY SURFACE AND TRANSITIONAL SURFACE. IT IS RECOMMENDED THAT YAVAPAI COUNTY SURVEY HEIGHT OF THESE TANKS AND RELOCATE THEM.



DESCRIPTION OF	WORK	DATE	BY	APPROVED		
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	BAGDAD, ARIZONA					
		PROPERTY MAP				
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GENERAL NOTES

- 1. STANDARD LEFT HAND PATTERN TO 23 END IS SHOWN
- 2. SUBSEQUENT TO 1997, THE STATE PASSED A STATUTE THAT REQUIRES THE ARIZONA REAL ESTATE DEPARTMENT TO MAINTAIN A CATALOGUE OF DISCLOSURE AREAS FOR ALL PUBLIC AIRPORTS IN THE STATE, THE DISCLOSURE AREA IS DEFINED AS THAT AREA ENCOMPASSING THE 65 DNL CONTOUR AND THE TRAFFIC PATTERN AIRSPACE FOR THE AIRPORT. THE 65DNL CONTOUR DOES NOT EXTEND BEYOND THE TRAFFIC PATTERN AIRSPACE.
- 3. TRAFFIC PATTERN BASED ON FAA ORDER 7400.2D 9/16/98 FOR SMALL AIRCRAFT.





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Planett, Ariman SCH Der (601) 431-4